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Cholera, yellow fever, plague, and smallpox, etc.—Continued.

SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
Chihuahua.....	July 16-Sept. 3...	.....	12	
City of Mexico.....	June 4-Aug. 13...	70	50	
Nuevo Laredo.....	July 1-Aug. 26...	.....	3	
Netherlands:				
Rotterdam.....	July 15-July 22...	1	.....
Russia:				
Khabarovsk.....	Apr. 1-Apr. 30...	1	.....
Moscow.....	May 27-Aug. 11...	111	49	
Odessa.....	June 10-Aug. 18...	33	10	
St. Petersburg.....	June 3-Aug. 5...	89	29	
Warsaw.....	June 3-Aug. 19...	.....	11	
Scotland:				
Glasgow.....	June 3-June 17...	1	1	
Spain:				
Valencia.....	Aug. 16-Aug. 29...	4	1	
Straits Settlements:				
Singapore.....	Apr. 1-July 15...	.....	22	
Turkey:				
Beireut.....	June 27-July 1...	1	.....
Erzeroum.....	July 8-Aug. 12...	6	.....
Smyrna.....	May 27-Aug. 20...	.....	10	
Uruguay:				
Montevideo.....	May 27-July 30...	2	.....

On the influence of the drying process at various temperatures on the viability of the pest bacillus, by S. L. Rappoport, preliminary communication, from the laboratory of the Scientific Military Medical Committee.

[Translated from Voyenno-Meditsinskiy Zhurnal, St. Petersburg, October, 1898.]

Early in the past year I began, in compliance with the proposition of Dr. I. F. Rapchevsky in the laboratory entrusted to him, the study of the biological qualities of the bacillus of pest. The present communication relates only to the influence upon the organism of the drying process at various temperatures and under various circumstances.

Cultures of the bacillus pestis have been obtained through Dr. I. F. Rapchevsky from the Imperial Institute of Experimental Medicine. The hypodermic injection of 1 cubic centimeter of bouillon culture of the bacillus of pest to white mice, and injections performed in the abdominal region, killed the mice within two days, and the specific germs were found in the organs, as well as in the blood of the latter.

For drying experiments, the following materials were used: Silk threads, letter paper, filtering paper, linen, and cloth. All fatty substance was carefully eliminated from the silk threads, which were thoroughly sterilized. The other material was cut into rounds of similar size, 1½ centimeter in diameter, and were also carefully sterilized. An emulsion from a two days' culture on agar-agar, in meat broth (with peptone and salt), was made of such consistency that large type could not be seen through it.

The material experimented upon was immersed for one-half an hour in this emulsion, and distributed after preliminary drying between sheets of filtering paper, in Petri dishes, sterilized beforehand and not hermetically closed. I arrived at my conclusions about the loss of the multiplying capacity from the fact that no growth could be noticed in the experimental vessels with broth in which the silk threads and rounds were put, even after a two weeks' stay in the thermosta.

In view of the absence of characteristic qualities of growth of the bacillus of pest in broth, each experimental vessel was also microscopically examined for control. Experiments to which some foreign matter has accidentally been admixed were not taken into account.

The following results have been obtained by me:

(1) Under the action of *sunlight at room temperature* (18° to 20° C.) growth was noticed on the silk threads until the nineteenth day; on rounds of letter paper, until the ninth day; on rounds of filtering paper, until the eleventh day; on rounds of linen, until the eighth day; on rounds of cloth, until the twelfth day.

(2) *In darkness and at room temperature* growth on silk threads was to be noticed until the twenty-third day; on rounds of letter paper, until the sixteenth day; on rounds of filtering paper, until the twenty-third day; on rounds of linen, until the twelfth day; on rounds of cloth, until the twenty-second day.

(3) *In the desiccator at room temperature* growth was noticed in the silk threads until the twenty-second day; in rounds of letter paper, until the tenth day; on rounds of filtering paper, until the ninth day; on rounds of linen, until the eleventh day; on rounds of cloth, until the twelfth day.

(4) *In the thermostat* (temperature 33° to 36° C.) on silk threads, growth was noticed until the eleventh day; on letter paper, until the fourth day; on filtering paper, until the sixth day; on linen rounds, until the third day; on cloth rounds, until the fourth day.

(5) At a temperature of 60° C. in dry bath, growth was noticed on the silk threads for sixty minutes; on rounds of letter paper the growth stopped after fifteen minutes; on rounds of filtering paper, after thirty minutes; on linen rounds, after fifteen minutes; on cloth rounds, after 45 minutes.

(6) At a temperature of 80° C. in a dry bath, after fifteen minutes, no growth was noticed either on the silk threads or on the rounds.

TABLE III.—Same experiment at room temperature in desiccator.

[illegible]

TABLE IV.—Some experiment at thermostat temperature (31° – 36° C.).

[illegible]

TABLE V.—*Same experiment in dry bath at 60° C.*

Material.	After how many minutes action of dry air at 60°.										
	0	15	30	45	60	75	90	105	120	135	150
Silk thread.....	x	x	x	x	x	—	—	—	—	—	—
Letter paper.....	x	x	x	—	—	—	—	—	—	—	—
Filter paper.....	x	x	x	—	—	—	—	—	—	—	—
Linen.....	x	x	x	—	—	—	—	—	—	—	—
Cloth.....	x	x	x	x	—	—	—	—	—	—	—

TABLE VI.—*Same experiment in dry bath at 80° C.*

Material.	After how many minutes action of dry air at 80° C.										
	0	15	30	45	60	75	90	105	120	135	150
Silk thread.....	x	—	—	—	—	—	—	—	—	—	—
Letter paper.....	x	—	—	—	—	—	—	—	—	—	—
Filter paper.....	x	—	—	—	—	—	—	—	—	—	—
Linen.....	x	—	—	—	—	—	—	—	—	—	—
Cloth.....	x	—	—	—	—	—	—	—	—	—	—

Further, pieces of filtering paper of about 1 cm. wide and 4 cm. long were smeared with the organs of the white mice that had perished from the injection of the suspension of bacillus pestis. These pieces of filtering paper were put between sheets of folded letter paper; this paper was placed in an envelope of stout paper and the latter placed in a thick book. The book was placed in a dry bath at a temperature of 60° C. The growth was stopped after two hours. In a dry bath at a temperature of 80° C. the growth was stopped in eighty minutes.

The growth kept on for forty-eight days in room temperature. Under the influence of formalin steam, the growth was stopped in thirty minutes.

SANITARY REPORTS FROM THE CENTRAL AMERICAN AND COLOMBIAN FRUIT PORTS.

BRITISH HONDURAS.

Sanitary report from Belize.

BELIZE, BRITISH HONDURAS, *September 1, 1899.*

SIR: I have the honor to report the health condition of Belize as very good, there is no infectious or contagious disease in Belize or near surrounding colony. The steamship *Managua* sailed this a. m. for Mobile with 6 passengers, all in good health. The steamship *Breakwater* sails this p. m. for New Orleans with 2 passengers. Both steamers have complied with the regulations governing vessels engaged in tropical fruit trade.

Respectfully, yours,

C. W. KNIGHT,
Acting Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.